Discussion

of

Wright Brothers Memorial Lecture

by

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December 17, 1958

(Contributed by Hugh L. Dryden, Deputy Administrator, NASA)

The lecture just delivered by our illustrious French colleague, whose personal friendship I enjoy and value highly, is a fitting memorial to Wilbur and Orville Wright in its presentation of the current valuable contributions to aeronautical knowledge of an outstanding scientific leader and his collaborators. On your behalf and mine, I express appreciation to Professor Roy for his lecture and ask him to extend our compliments also to the ONERA group on their accomplishments under his guidance.

Professor Roy speaks briefly of the new field which he terms "Cosmonautics" and we in the U.S. call "Space Science and Technology" or in some quarters "Astronautics". Had we had the courage to adopt his terminology, the new National Aeronautics and Space Administration might have retained the old NACA initials. Though we like many others dream of travel to the stars and throughout the Cosmos, we felt that for some time to come our travels would be confined to our solar system and so avoided the grander implications of Cosmonautics.

We in NASA agree fully with the stress placed on the continuing importance of aeronautics research.

I have been greatly impressed by the broad attack of ONERA, its fundamental research in materials, dynamics of structures, and aerodynamics, its novel applications of physical principles and ingenious instrumentation, and its bold experimentation. Its work has supplemented and complemented the work of NASA and similar research organizations in other countries, with unique contributions, demonstrating anew that creativity and originality are not confined to any one group or country.

Being originally an aerodynamicist I was especially interested in the work on transition and flow separation, particularly in the study of flow separation on three-dimensional bodies. The work on flow visualization and hypersonic theory is noteworthy.

The extensive work of ONERA on controlled and forced circulation by boundary-layer suction and blowing has long been known and admired. We are intrigued by Professor Roy's description and film of the Deltaviex experimental flying model, an excellent illustration of the bold experimentation to which I referred previously.

Finally I would call your attention to the many evidences throughout the paper to the personal contributions of Professor Roy himself ranging from hypersonic flow theory to the analysis of propulsion systems for STOL-VTOL aircraft and his conception of the

turbojet with "polyvalent secondary flow" as the most suitable power-plant type for these applications, particularly for supersonic transports capable of vertical take-off. This personal scientific productivity of the leader is a key element in the notable record of ONERA contributions.